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Electronic Grant Applications Make Their Debut at NIH

By JEFFREY BRAINARD

The National Institutes of Health passed a milestone this month in its effort to help scientists avoid the reams of paper that accompany the typical grant application for biomedical and behavioral research: It accepted 14 grant applications electronically.

By this time next year, the agency hopes to use the same procedure for most of the 37,000 competitive grants that it expects to award to individual researchers in the 2004 fiscal year. These grants are known as "R-01's" and are the most common type of award the agency makes.

The changes are part of a long-running effort by the NIH, the largest source of funds for university research, and other federal agencies to move to a consistent, government wide electronic format for managing and awarding grants. The agency's switch is expected to benefit colleges by cutting the waiting time between when scientists submit grant applications and when they hear the results. That wait was typically more than six months at the NIH, a delay that researchers have long complained was unreasonable.

The changes are also expected to save clerical time and money for both universities and the NIH. Now college administrators and scientists must repeatedly provide the same boilerplate information about their institutions and their research projects in grant applications and then send the NIH six copies, only to have the agency's officials make several more themselves. In addition, NIH staff members now retype information from paper applications into the agency's computer systems.

It may take two years or more before most NIH researchers submit applications electronically and the system is working smoothly, says John J. McGowan, program manager for the agency's electronic-records effort, dubbed the eRA Commons. "It takes awhile to change the culture."

The NIH is starting small, with 14 applications, to work out bugs in its software, says Mr. McGowan. The agency expects the number of applications submitted electronically to increase during each of the three cycles of awards that it makes throughout the year.

"One of the primary goals is not to cause harm to [principal investigators] in the submission," Mr. McGowan says. All of the 14 applicants in the first round were volunteers.

The changes may shorten the grant-application process by two months in some cases, Mr. McGowan says. That is partly because the electronic format will allow the NIH's staff to more quickly assign grant applications to the appropriate subdivision within the agency for peer review.

Institutions are required to register first before they can begin submitting electronic grant applications. More than 560 institutions, most of them in academe, have registered so far. Once their institutions have registered, scientists can avoid having to fill out basic information about themselves and their college for each separate grant application they submit.

Tracking Progress

The NIH has moved other parts of its grants-management system to a common computerized format over the past two years. For instance, peer-review panels that judge grant applications can now read proposals on CD-ROM's and trade their critiques electronically in advance of meetings. That cuts down on meeting time because panel members can focus their discussions on remaining disagreements.

In addition, the system now allows the NIH to speed up the process of notifying those who receive awards and transferring funds to them, which used to take up to a month using letters and paper checks. Participants can also send the required progress reports to the NIH electronically and check online to find the balance of their grant awards.

NIH officials say that all of these electronic tools will not only improve management, but will also help them track scientific trends. They might follow, for instance, the careers of postdoctoral researchers and other scientists who work on NIH-financed projects. Because they are not principal investigators, their identities are not uniformly tracked by the NIH's older data systems.

The trail for electronic-grant applications was blazed by the National Science Foundation, which in 1994 became the first federal agency to set up such a system, known as FastLane. That experience provided useful lessons for other agencies and academe, says Ron Splittgerber, director of research services at Colorado State University.

"When they first rolled out FastLane, there were researchers ready to revolt because it was so different from paper submissions," he says. "NSF went through a lot of sweat and effort to get it correct."

The NIH says its system will be more flexible than the NSF's, which requires universities to submit information about grants using standardized application forms on the Internet.

For example, the NIH system will allow scientists and administrators to prepare grant applications using a variety of word-processing and graphics programs and to submit that information to a central university office. That office will then repackage the information and send it electronically to the NIH using a common format. Many university officials expect this approach to be adopted by other federal agencies.

That centralized approach is expected to benefit large research universities that administer dozens of NIH grants. But the NIH and other agencies are also working to allow smaller colleges that only send a few applications a year to use a simpler method of electronic submission, avoiding the need for them to set up new computer systems to process the applications centrally.

Consistency Across Agencies

Besides the NSF and the NIH, 24 other federal agencies that award grants are also moving to make electronic grant submissions possible. University officials have

repeatedly voiced worries that the agencies are going in opposite directions. The various systems continue to have significant differences, says Kenneth G. Forstmeier, director of the office of research information systems at Pennsylvania State University at University Park.

Some allow individual investigators to submit their own electronic applications directly to an agency; others, like the NIH's, require university administrators to give approval first. Such approval by higher-ups is important for a variety of internal accounting purposes, Mr. Forstmeier says.

Federal officials have said that the differences among systems will ultimately be smoothed out when the federal government unites them under a single application format. The government is scheduled to take a step in that direction on October 31, when people seeking money for research and nonresearch projects can file applications to any of 11 federal agencies using a single Web site, (http://www.grants.gov). For now, however, they must use the PC platform to file the applications. That rankles university research administrators, many of whom use Apple computers.

Eventually, the government plans to allow researchers to track the progress of their grant applications using that Web site.
